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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,428	04/12/2004	Rafael Storz	21295.79 (H5786US)	2551
29127 7590 03/21/2007 HOUSTON ELISEEVA 4 MILITIA DRIVE, SUITE 4 LEXINGTON, MA 02421			EXAMINER LIN, JERRY	
			ART UNIT	PAPER NUMBER
			1631	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/822,428

Applicant(s)

STORZ ET AL.

Examiner

Jerry Lin

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 5-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-17 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicants' arguments, filed December 26, 2006 have been fully considered and they are deemed to be persuasive in-part. The following rejections and/or objections are newly applied as necessitated by amendment. They constitute the complete set presently being applied to the instant application.

Status of the Claims

Claims 1, 2, and 5-17 are under examination.

Claim Objections

2. Claim 17 objected to because of the following informalities: a claim should end in a period. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 5-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Instant claim 1, has been amended to include the clause "wherein the separation points . . . are determined" However, the instant claim already includes a step of determining wavelength separation points. It unclear if there is two determining steps or

Art Unit: 1631

if the determining steps are to be taken together. Clarification via clearer claim language is requested.

5. Instant claim 1 also has been amended to include "a difference between an emission spectrum of one fluorescent dye present in the sample and measured emission spectra of at least two dyes present in the sample." This phrase is unclear because the claim initially required that the sample have only two dyes. However, in the instant phrase, it appears three dyes are required. It also is unclear to what the difference is referring. For example, a difference in emission spectrum could be the difference between the height of the peaks or at what wavelength do the peaks occur. However, judging from the figures, it appears that the difference is the between the intensity of one dye at a wavelength and the intensity of another dye at the same wavelength. Thus it is unclear, which interpretation of "difference" the applicants are using. Clarification via clearer claim language is requested. Also, to clarify the steps in determining the separation points, the Examiner suggests listing each mathematical step separately, e.g. finding the difference, squaring the difference, finding the integral, minimizing the integral, adjusting the separation of the channel, etc.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lybarger et al. (Cytometry (1998) Volume 31, pages 147-152) in view of Wang et al. (US 2003/0008364 A1).

The instant claims are drawn to a method of detecting emissions from fluorescent dyes by providing a sample with at least two fluorescent dyes, determining the emission spectrum of the dyes, determining the separation points of the emission spectrum in terms of wavelength, and adjusting the separation of two channels to detect the different emissions using a micromirror.

Regarding claim 17, Lybarger et al. teach a method wherein a sample with two fluorescent dyes are provided (page 148, left column, top paragraph); determining the emission spectrum of the dyes where they are excitable at a wavelengths that do not exceed the number of dyes (page 149); determining the separation points of the emission spectrum in terms of wavelength to allocate the corresponding portion of the emission spectrum to a specific channel (page 149; page 151, right column); adjusting

Art Unit: 1631

the separation of the channels so that the emission are conveyed to different channels (page 148, right column, bottom; page 149, left column, bottom).

However, Lybarger et al. do not teach using a micromirror array.

Wang et al. teach a method of directing light in a flow cytometer using a micromirror array (page 3, paragraph 0021; page 8, paragraphs 0112).

It would have been obvious to one of ordinary skill in the art to combine the method of Lybarger et al. and Wang et al. to gain the benefit of the adjustability of a micromirror array. Lybarger et al. teach using a mirror to separate the signals. However, the mirror used by Lybarger et al. does not allow the user to adjust for different signals, thus limiting the Lybarger et al. method to particular dyes. The micromirror is adjustable and can adopt a configuration that is most favorable for a dye. Wang et al. teach that the micromirror is adjusted to generate the most favorable light for an experiment (page 8, paragraph 0111). Given that both Lybarger et al. and Wang et al. are drawn to cytometers and Wang et al. teaches a method that would grant more flexibility in the choice of dyes, one of ordinary skill in the art would be motivated to combine the methods of Lybarger et al. and Wang et al.

Contact Information

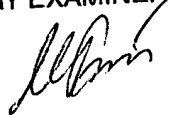
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Lin whose telephone number is (571) 272-2561. The examiner can normally be reached on 10:00-6:30, M-F.

Art Unit: 1631

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Irem Yucel can be reached on (571) 272-0781. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MICHAEL BORIN, PH.D
PRIMARY EXAMINER



JL